

September 1, 2004

Patent claims

5

1. A method for simultaneously producing at least two workpieces (6, 7), separated from one another, by means of internal high pressure forming or hydroforming,

10 - in which a blank (12) is inserted into a forming tool (2) which has in its inner wall (3) at least two negative molds (4, 5) for in each case one of the workpieces (6, 7) and also at least one parting gap (8) which is arranged between two respective negative molds (4, 5), extends all round in the circumferential
15 direction of the workpieces (6, 7) and is defined by two spaced-apart cutting edges (9, 10),

- in which the blank (12) is acted upon by internal high pressure for the forming and is in contact with the inner wall (3) in the region of the negative molds (4,
20 5),

characterized in that

- the cutting edges (9, 10) are exposed during the forming,
- the blank (12), in the region of the at least one gap
25 (8), penetrates into the latter during the forming, the cutting edges (9, 10) cutting out a section (15) between two respective workpieces (6, 7).

30 2. The method as claimed in claim 1, characterized in that

- the forming is carried out at least toward the end with a calibrating pressure (P_K), which is selected in such a way that the blank (12) is in full contact with the inner wall (3) in the negative molds (4, 5),

- a gap width (11) of the parting gap (8) is dimensioned in such a way that the workpieces (6, 7) are parted at the calibrating pressure (P_K).

- 5 3. A device for simultaneously producing at least two workpieces (6, 7), separated from one another, by means of internal high pressure forming or hydroforming,
- having a forming tool (2) into which a blank (12) can be inserted and which has in its inner wall (3) at least
10 two negative molds (4, 5) for in each case one of the workpieces (6, 7) and also at least one parting gap (8) which is arranged between two respective negative molds (4, 5), extends all round in the circumferential direction of the workpieces (6, 7) and is defined by two
15 spaced-apart cutting edges (9, 10),
 - having a feed device for feeding a pressure medium into the blank inserted into the forming tool (2) and for applying an internal high pressure to the inserted blank (12) in such a way that the blank (12) is in contact
20 with the inner wall (3) in the region of the negative molds (4, 5),
- characterized in that
- the cutting edges (9, 10) are arranged in an exposed manner in the inner wall (3) at least during the
25 forming,
 - the feed device applies the internal high pressure to the blank (12) in such a way that, in the region of the at least one gap (8), it penetrates into the latter, the cutting edges (9, 10) cutting out a section (15) between
30 two respective workpieces (6, 7).

4. The device as claimed in claim 3,
characterized in that

- a control system is provided which is designed in such

- a way that it activates the feed device in such a way that the forming of the blank (12) is carried out at least toward the end with a calibrating pressure (P_K), which is selected in such a way that the blank (12) is
- 5 in full contact with the inner wall (3) in the negative molds (4, 5),
- a gap width (11) of the parting gap (8) is dimensioned in such a way that the workpieces (6, 7) are parted at the calibrating pressure (P_K).